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National Cooperative Dairy Herd Improvement Program



A plan for every size herd

OFFICIAL DHI

OWNER SAMPLER

WEIGH-A-DAY-A-MONTH

AGRICULTURAL RESEARCH SERVICE, U. S. DEPARTMENT OF AGRICULTURE

Dairy-Herd-Improvement Letter

ARS-44-215

(Vol. 46, No. 2)

May 1970

DHIA PARTICIPATION REPORT, JANUARY 1, 1970^{1/}

The National Cooperative Dairy Herd Improvement Program is a composite of the Official DHI (including DHIR), Owner-Sampler, Weigh-a-Day-a-Month (WADAM), and other unofficial recordkeeping plans. For the first time, other unofficial DHI plans are being counted as part of the National Cooperative DHI Program in this annual DHIA Participation Report. This change in procedure has been followed in all tables and in calculating the totals and percentages of herds and cows on test. Therefore, the totals and percentages across record-keeping plans are not directly comparable to those which have been compiled in past years.

On January 1, 1970, the Program included 59,629 herds with 3,120,143 cows, which is 24.6 percent of the Nation's dairy cow population. The cows were in 1,267 associations with 2,225 supervisors. Official DHI (including DHIR), included 34,308 herds and 2,122,011 cows for an average of 61.9 cows per herd; DHIR included 3,814 herds and 235,829 cows averaging 61.8 cows per herd; and Owner-Sampler included 23,281 herds and 839,343 cows for an average of 36.1 cows per herd. Similar

^{1/} Prepared by G. J. King, F. N. Dickinson, C. A. Rampendahl, J. J. Corbin, and A. H. Kienast from data supplied by the State Extension dairymen in charge of DHIA recordkeeping.

figures for WADAM were 703 herds, 47,493 cows, and 67.6 cows per herd. The other unofficial plans included 1,337 herds and 111,296 cows for an average of 83.2 cows per herd.

The percentage of the Nation's cows enrolled in Official DHI was 16.7, up from 16.4 percent in 1969. DHIR enrolled 1.9 percent of the Nation's cows, the same percentage enrolled in 1969. Owner-Sampler cows increased to 6.6 percent from 6.5 percent of the Nation's cows in 1969, and WADAM increased to 0.4 percent from 0.3 percent in 1969. Enrollment in other unofficial plans comprised 0.9 percent of the Nation's cows in their first tabulation.

The percentages increased for Official DHI and Owner-Sampler because the U.S. dairy cow population dropped from 13,038,000 January 1, 1969, to 12,689,000 January 1, 1970, a decrease of 349,000. Details of the participation in the various recordkeeping plans are given in tables 4 through 8.

Part of the information in table 1 is presented this year for the first time. It contains a listing of States that have State dairy herd improvement associations and those that hold membership in the National Dairy Herd Improvement Association (NDHIA), Inc. These facts are also shown on the map on page 19. Establishing a State DHIA is important to the development and growth of sound dairy recordkeeping programs in any State. In 1969, three more State-level DHI Associations were formed. Twenty-two States were members of NDHIA, Inc. as of January 1, 1970. The work of Don Voelker, Federal Extension Dairyman for July-December 1969, was most helpful in this development, and Marvin Senger, Federal Extension Dairyman for calendar year 1970, is providing guidance to other States which are in the process of forming State DHI Associations.

The number of counties, associations, and supervisors in the Program have also been included in table 1. The number of counties include only those that have the Official DHI, Owner-Sampler, and/or WADAM plans. Information on additional counties having only other unofficial plans was not available.

Table 2 lists the percentages of all milk cows included

in all recordkeeping plans. It was included in the March 1969 DHI Letter as table 14. This year, the map on page 20 is included to show graphically the data in table 2. The data show California as the only State with more than 50 percent of its cows on test. Five States follow closely with between 40 and 49.9 percent of cows on test; the largest group of States is 16 having between 20 and 29.9 percent of cows on test; five States still have less than 10 percent of their cows on test.

Table 3 summarizes the data for participation in each recordkeeping plan. Footnote 1 gives the titles of the unofficial plans other than Owner-Sampler and WADAM. The titles of these plans by States are listed in table 8, footnotes 4 to 10. Table 3, footnote 4, lists 3,455 herds and 115,409 cows on unofficial recordkeeping plans not under the auspices of the National Program, such as Vocational Agriculture, independent testers, and private testing.

Figures for Official DHI in table 4 indicate that there are fewer herds and cows on test than a year ago. However, herd size increased 1.8 cows per herd. This increase — to 61.9 cows per herd — is a doubling in herd size since 1953. More than 36 years were required for such a doubling in herd size to occur before 1953.

Table 5 lists herds and cows on DHIR. These are included in Official DHI as the various plans are tabulated, but are listed in table 5 to show relative numbers and percentages that DHIR recordkeeping comprises. The number of herds and cows on DHIR also decreased in 1969.

Owner-Sampler recordkeeping detailed by State in table 6 also showed losses in herds and cows.

WADAM recordkeeping presented in table 7 showed a different trend as herds on test continued to decrease, but cows on test, having declined by January 1, 1969, rose by January 1, 1970. The cows per herd thus increased from 62.3 on January 1, 1969, to 67.6 on January 1, 1970.

Table 8 is also new this year. It includes the same details for participation in other unofficial plans as tables 4 to 7 do for Official DHI, Owner-Sampler, and WADAM. Its figures show that there are almost twice as many herds and more than twice as many cows on other unofficial plans than on WADAM.

Table 9 has been changed somewhat from the table 5 of former years. The numbers of herds and cows have been omitted; reference to DHIR has been omitted because DHIR records have always been, by definition, 100 percent computer-processed; and figures for other unofficial plans have been added.

Tables 10 to 13 refer to material in the participation report rather than to subjects included last year. The material on lactation records received by USDA, errors, and rejects will be presented in another DHI Letter.

Table 10 is a history of DHI work in the United States since its beginning in 1906. Although the number of associations and supervisors given are for the total National Program, all figures for herds, cows, and production are for Official DHI only.

In table 11, enrollment and production in Official DHI have been compared to the numbers and production of all milk cows in the United States for 14 years -- since the WADAM plan was included in the National Program.

A 14-year summary for the number of cows on test in the various plans and the proportion that each number is of the national dairy herd is given in table 12.

Table 13 is the listing of counties that have 40 percent or more of their cows included in the National Cooperative DHI Program. The percentage of counties having 25 percent or more of their cows on test is given in parentheses at the end of each State's listing.

The data included on unofficial recordkeeping, when compared with unpublished data from previous years, seem to show a trend to dairy recordkeeping plans which are attractive to more dairymen because of cost, convenience, or type of record received. The widespread use of such plans should result in more net income to more dairymen — a primary goal of the National Cooperative DHI Program.

TABLE 1.--The National Cooperative Dairy Herd Improvement Program organization (January 1, 1970)

State	State DHIA organization	Member of NDHIA, Inc.	Counties that have at least one testing program	Associations	Supervisors
			Number	Number	Number
Alabama-----	No	No	52	21	22
Alaska-----	No	No	2	2	2
Arizona-----	No	No	5	4	8
Arkansas-----	Yes	Yes	22	11	15
California-----	Yes	Yes	45	28	122
Colorado-----	Yes	Yes	29	16	20
Connecticut-----	Yes	Yes	8	7	20
Delaware-----	Yes	No	3	3	4
Florida-----	Yes	Yes	34	11	15
Georgia-----	No	No	88	29	31
Hawaii-----	Yes	No	4	1	3
Idaho-----	No	No	29	28	28
Illinois-----	No	No	82	51	73
Indiana-----	Yes	No	78	52	71
Iowa-----	Yes	Yes	97	71	95
Kansas-----	Yes	No	87	56	53
Kentucky-----	Yes	Yes	72	31	46
Louisiana-----	Yes	No	34	24	29
Maine-----	No	No	16	12	24
Maryland-----	Yes	Yes	16	16	32
Massachusetts----	Yes	Yes	11	10	22
Michigan-----	Yes	Yes	77	55	87
Minnesota-----	Yes	No	84	77	194
Mississippi-----	No	No	49	20	25
Missouri-----	Yes	Yes	81	41	59
Montana-----	No	No	14	6	7
Nebraska-----	Yes	Yes	61	29	34
Nevada-----	No	No	5	3	3
New Hampshire----	Yes	No	9	9	15
New Jersey-----	Yes	No	12	8	20
New Mexico-----	Yes	No	11	3	8
New York-----	Yes	Yes	49	49	183
North Carolina----	Yes	Yes	81	39	50
North Dakota-----	No	No	39	12	12
Ohio-----	Yes	No	85	71	136
Oklahoma-----	No	No	54	16	20
Oregon-----	Yes	Yes	26	15	20
Pennsylvania-----	Yes	Yes	61	61	160
Puerto Rico 1/----	Yes	No	7	1	1
Rhode Island-----	Yes	No	4	2	2
South Carolina----	No	No	36	24	25
South Dakota-----	Yes	No	63	18	21
Tennessee-----	No	No	60	40	36
Texas-----	Yes	Yes	78	23	27
Utah-----	Yes	Yes	17	17	18
Vermont-----	Yes	Yes	14	27	52
Virginia-----	Yes	Yes	81	38	51
Washington-----	Yes	Yes	30	23	43
West Virginia-----	Yes	No	28	12	18
Wisconsin-----	Yes	Yes	70	41	157
Wyoming-----	No	No	7	3	6
The Nat'l. Coop. DHI Program-----	36	22	2,107	1,267	2,225

1/ Based on last report available (1-1-69).

TABLE 2.--Percentage of cows, by State, included in the program: Official DHI, Owner-Sampler, and WADAM, and other unofficial plans

State	Rank	State	Rank
	<u>Percent</u>		<u>Percent</u>
California-----	50.2	Oregon-----	26.1
Hawaii-----	47.6	Indiana-----	25.5
Arizona-----	43.0	Alabama-----	24.6
South Carolina-----	42.3	Rhode Island-----	23.4
Nevada-----	40.4	Illinois-----	23.1
Connecticut-----	40.1	Kansas-----	22.5
New Mexico-----	38.6	Florida-----	19.6
New Hampshire-----	34.7	Colorado-----	19.1
Delaware-----	34.3	West Virginia-----	19.0
New Jersey-----	33.8	Minnesota-----	18.3
Pennsylvania-----	32.6	Iowa-----	18.1
Massachusetts-----	32.3	Oklahoma-----	16.8
Maine-----	31.8	Idaho-----	16.5
Vermont-----	31.0	Montana-----	15.9
North Carolina-----	30.4	Louisiana-----	12.9
Virginia-----	29.7	Mississippi-----	12.6
Georgia-----	29.2	Nebraska-----	11.4
Utah-----	28.9	Wyoming-----	10.9
Washington-----	28.9	Missouri-----	10.8
Alaska-----	28.6	Tennessee-----	10.6
New York-----	28.0	Texas-----	9.5
Michigan-----	27.9	South Dakota-----	9.1
Wisconsin-----	27.8	Arkansas-----	8.8
Maryland-----	26.9	Kentucky-----	7.9
Ohio-----	26.9	North Dakota-----	5.0
		United States-----	24.6

TABLE 3.--The National Cooperative Dairy Herd Improvement Program and other testing programs (January 1, 1970)

State	Official DHIA (incl. DHIR)		Owner-Sampler		Weigh-a-Day -a-Month		Other unofficial plans ^{1/}		All testing programs		Milk cows in U.S.	
	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows	Total ^{2/}	In all plans
Ala-----	299	33,078	7	585	6	276	-----	-----	312	33,939	138	24.6
Alaska-----	5	193	8	321	-----	-----	-----	-----	13	514	1.8	28.6
Ariz-----	64	13,785	25	8,140	-----	-----	-----	-----	89	21,925	51	43.0
Ark-----	96	5,411	74	3,136	4	150	-----	-----	174	8,697	99	8.8
Calif-----	1,493	324,563	96	7,897	-----	-----	204	56,893	1,793	389,353	776	50.2
Colo-----	246	18,171	21	928	-----	-----	2	143	269	19,242	101	19.1
Conn-----	381	23,699	60	2,507	3	234	-----	-----	444	26,440	66	40.1
Del-----	80	4,913	7	174	3	56	-----	-----	90	5,143	15	34.3
Fla-----	93	22,235	13	10,434	19	4,585	-----	-----	125	37,254	190	19.6
Ga-----	360	33,770	3	354	55	6,699	-----	-----	418	40,823	140	29.2
Hawaii-----	12	4,174	5	1,356	1	568	-----	-----	18	6,098	12.8	47.6
Idaho-----	447	24,902	19	600	-----	-----	-----	-----	466	25,502	155	16.5
Ill-----	1,238	56,407	317	10,979	183	6,891	-----	-----	1,738	74,277	322	23.1
Ind-----	918	47,681	364	13,808	-----	-----	-----	-----	1,282	61,489	241	25.5
Iowa-----	1,652	61,536	1,190	33,939	3	65	-----	-----	2,845	95,540	528	18.1
Kans-----	794	40,266	152	6,009	-----	-----	-----	-----	946	46,275	206	22.5
Ky-----	506	25,230	31	1,280	24	1,397	-----	-----	561	27,907	354	7.9
La-----	114	10,789	2	132	164	11,713	-----	-----	280	22,634	175	12.9
Maine-----	367	18,533	83	3,382	-----	-----	-----	-----	450	21,915	69	31.8
Md-----	616	42,196	73	3,335	-----	-----	-----	-----	689	45,531	169	26.9
Mass-----	398	19,248	57	2,052	-----	-----	-----	-----	455	21,300	66	32.3
Mich-----	1,470	79,676	1,295	46,778	-----	-----	124	5,330	2,889	131,784	472	27.9
Minn-----	3,291	119,456	2,157	64,972	-----	-----	-----	-----	5,448	184,428	1,008	18.3
Miss-----	277	22,898	5	441	19	1,887	-----	-----	301	25,226	201	12.6
Mo-----	567	31,366	211	8,543	-----	-----	-----	-----	778	39,909	368	10.8
Mont-----	77	5,228	26	1,789	-----	-----	-----	-----	103	7,017	44	15.9
Nebr-----	410	20,000	60	2,300	25	742	-----	-----	495	23,042	202	11.4
Nev-----	54	3,743	9	1,828	-----	-----	-----	-----	63	5,571	13.8	40.4
N. H-----	199	10,619	55	2,117	8	449	-----	-----	262	13,185	38	34.7
N. J-----	342	22,167	30	3,163	-----	-----	-----	-----	372	25,330	75	33.8
N. Mex-----	31	11,641	3	2,269	-----	-----	-----	-----	34	13,910	36	38.6
N. Y-----	3,493	193,257	2,135	87,142	-----	-----	96	6,641	5,724	287,040	1,024	28.0
N. C-----	757	54,146	36	1,660	39	1,880	-----	-----	832	57,686	190	30.4
N. Dak-----	148	6,013	25	700	20	750	-----	-----	193	7,463	148	5.0
Ohio-----	1,912	88,516	1,130	35,918	-----	-----	-----	-----	3,042	124,434	463	26.9
Okla-----	331	22,526	53	2,860	-----	-----	-----	-----	384	25,386	151	16.8
Oreg-----	329	25,255	60	3,020	-----	-----	8	450	397	28,725	110	26.1
Pa-----	3,281	150,493	1,262	44,122	-----	-----	882	39,564	5,425	234,179	718	32.6
P. R ^{3/} -----	7	1,007	-----	-----	25	5,132	-----	-----	32	6,139	---	---
R. I-----	32	1,852	-----	-----	-----	-----	-----	-----	32	1,852	7.9	23.4
S. C-----	271	28,842	6	463	8	274	-----	-----	285	29,579	70	42.3
S. Dak-----	143	5,600	343	11,922	-----	-----	-----	-----	486	17,522	192	9.1
Tenn-----	480	31,363	6	175	37	1,574	-----	-----	523	33,112	313	10.6
Tex-----	316	30,564	21	1,859	11	904	-----	-----	348	33,327	351	9.5
Utah-----	393	21,130	23	821	-----	-----	-----	-----	416	21,951	76	28.9
Vt-----	695	38,147	569	25,681	-----	-----	-----	-----	1,264	63,828	206	31.0
Va-----	908	64,272	54	2,307	6	232	-----	-----	968	66,811	225	29.7
Wash-----	640	49,423	27	1,183	-----	-----	21	2,275	688	52,881	183	28.9
W. Va-----	186	10,215	22	741	40	1,035	-----	-----	248	11,991	63	19.0
Wis-----	3,065	140,258	11,041	372,711	-----	-----	-----	-----	14,106	512,969	1,846	27.8
Wyo-----	24	1,558	10	510	-----	-----	-----	-----	34	2,068	18.9	10.9
Total or percent:												
The Natl. Coop. DHIA Program	34,308	2,122,011	23,281	839,343	703	47,493	1,337	111,296	59,629	3,120,143	12,689	24.6
All test- ing Pro- grams ^{4/}	-----	-----	-----	-----	-----	-----	-----	-----	63,084	3,235,552	-----	25.5

^{1/} Unofficial plans operating under the auspices of the National Cooperative Dairy Herd Improvement Program such as Tri-Monthly Test, Milk Only Record, Tri-Monthly Fat Test, Tester Sampled, Commercial DHIA, Commercial, Alternate AM-PM, and Tester-Sampler.

^{2/} Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA).

^{3/} Based on last report available (1-1-69).

^{4/} The following number of herds and cows are on other testing programs such as Vocational Agriculture, private, independent tester, etc., by State: Arizona, 35 herds, 6,000 cows; California, 19 herds, 75 cows; Colorado, 13 herds, 1,317 cows; Iowa, 250 herds, 4,500 cows; Michigan, 27 herds, 771 cows; New York, 13 herds, 561 cows; North Dakota, 76 herds, 2,010 cows; Wisconsin, 3,022 herds, 100,175 cows. Total = 3,455 herds, 115,409 cows.

TABLE 4.--Official DHI recordkeeping in the United States (January 1, 1970)

State	Official DHI (incl. DHIR)			Change from 1-1-69	Av. cows per herd	All milk cows 1/	DHI cows as percent of all milk cows 2/	Change from 1-1-69	Dairy Herd Improvement Registry 3/ Herd 4/	
	Counties	Herds	Cows						Herd	Cows
	Number	Number	Number	Number	Number	Thousands	Percent	Percent	Number	Number
Ala-----	51	299	33,078	+801	110.6	138	24.0	+1.4	16	1,486
Alaska-----	2	5	193	-39	38.6	1.8	10.7	-2.7	2	50
Ariz-----	5	64	13,785	-6,789	215.4	51	27.0	-13.3	21	4,847
Ark-----	19	96	5,411	+313	56.4	99	5.5	+0.5	12	485
Calif-----	44	1,493	324,563	-39,064	217.4	776	41.8	-4.8	87	17,069
Colo-----	24	246	18,171	-325	73.9	101	18.0	-.7	39	2,222
Conn-----	8	381	23,699	+139	62.2	66	35.9	+.7	66	4,043
Del-----	3	80	4,913	+252	61.4	15	32.8	+1.7	8	498
Fla-----	33	93	22,235	+1,651	239.1	190	11.7	+.4	6	959
Ga-----	80	360	33,770	+2,263	93.8	140	24.1	+1.4	25	3,141
Hawaii-----	1	12	4,174	+1,142	347.8	12.8	32.6	+10.1	--	---
Idaho-----	28	447	24,902	-884	55.7	155	16.1	-.4	33	1,542
Ill-----	81	1,238	56,407	-1,076	45.6	322	17.5	+.1	132	6,124
Ind-----	78	918	47,581	+8,272	51.9	241	19.8	+4.2	164	8,774
Iowa-----	95	1,652	61,536	-577	37.2	528	11.7	+.8	194	7,556
Kans-----	86	794	40,266	+626	50.7	206	19.5	+.8	115	5,206
Ky-----	52	506	25,230	+1,497	49.9	354	7.1	+.6	46	1,900
La-----	24	114	10,789	+240	94.6	175	6.2	+.3	12	1,211
Maine-----	16	367	18,533	+628	50.5	69	26.9	+1.0	55	3,150
Md-----	16	616	42,196	+1,156	68.5	169	25.0	+.9	89	7,123
Mass-----	11	398	19,248	-784	48.4	66	29.2	+.2	84	3,820
Mich-----	69	1,470	79,676	+44	54.2	472	16.9	+.1	113	7,615
Minn-----	84	3,291	119,456	-4,334	36.3	1,008	11.9	+.2	171	7,037
Miss-----	47	277	22,898	-9	82.7	201	11.4	+.4	24	2,019
Mo-----	76	567	31,366	+2,043	55.3	368	8.5	+.8	73	4,474
Mont-----	9	77	5,228	+138	67.9	44	11.9	+.8	11	714
Nebr-----	53	410	20,000	+662	48.8	202	9.9	+.7	45	3,125
Nev-----	5	54	3,743	-1,005	69.3	13.8	27.1	-7.6	13	680
N. H-----	9	199	10,619	+306	53.4	38	27.9	+1.5	45	2,454
N. J-----	11	342	22,167	-321	64.8	75	29.6	+1.1	53	3,675
N. Mex-----	11	31	11,641	+4,851	375.5	36	32.3	+14.4	11	2,901
N. Y-----	49	3,493	193,257	+5,250	55.3	1,024	18.9	+.8	305	17,541
N. C-----	79	757	54,146	+3,769	71.5	190	28.5	+2.4	53	4,103
N. Dak-----	31	148	6,013	-258	40.6	148	4.1	+.1	14	600
Ohio-----	83	1,912	88,516	-213	46.3	463	19.1	+.4	362	17,841
Okla-----	54	331	22,526	+3,338	68.1	151	14.9	+2.5	46	2,969
Oreg-----	26	329	25,255	-1,345	76.8	110	23.0	-.5	39	3,105
Pa-----	61	3,281	150,493	-7,345	45.9	718	21.0	-.7	226	12,845
P. R. 4/-----	7	7	1,007	0	143.9	----	----	----	----	----
R. I-----	4	32	1,852	-56	57.9	7.9	23.4	-.2	17	829
S. C-----	35	271	28,842	-419	106.4	70	41.2	+.6	40	5,331
S. Dak-----	55	143	5,600	-1,314	39.2	192	2.9	-.5	25	1,074
Tenn-----	56	480	31,363	+523	65.3	313	10.0	+.6	44	2,986
Tex-----	76	316	30,564	-2,838	96.7	351	8.7	-.5	63	5,906
Utah-----	17	393	21,130	-1,188	53.8	76	27.8	-2.0	24	1,399
Vt-----	14	695	38,147	-188	54.9	206	18.5	+.2	114	6,185
Va-----	79	908	64,272	+483	70.8	225	28.6	+1.0	83	6,357
Wash-----	30	640	49,423	+6,709	77.2	183	27.0	+4.0	91	6,480
W. Va-----	22	186	10,215	+554	54.9	63	16.2	+1.8	18	1,223
Wis-----	68	3,065	140,258	+5,664	45.8	1,846	7.6	+.5	482	23,013
Wyo-----	7	24	1,558	+115	64.9	18.9	8.2	+.8	3	142
Total, average, or percent-----	1,984	34,308	2,122,011	-16,942	61.9	12,689	16.7	+.3	3,814	235,829

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA).

2/ Percentage of cows included in the Official DHI (including DHIR) recordkeeping plan.

3/ Included in count of Official DHI herds and cows.

4/ Based on last report available (1-1-69).

TABLE 5.--Dairy Herd Improvement Registry recordkeeping in the United States (January 1, 1970)

State	Dairy Herd Improvement Registry ^{1/}			Change from ^{2/} 1-1-69	Av. cows per herd	All milk cows ^{3/}	DHIR cows as pct. of all milk cows ^{4/}
	Counties	Herds	Cows				
	Number	Number	Number	Number	Number	Thousands	Percent
Alabama-----	11	16	1,486	+180	92.9	138	1.1
Alaska-----	2	2	50	+1	25.0	1.8	2.8
Arizona-----	3	21	4,847	+1,732	230.8	51	9.5
Arkansas-----	6	12	485	-308	40.4	99	0.5
California-----	24	87	17,069	-7,700	196.2	776	2.2
Colorado-----	12	39	2,222	+619	57.0	101	2.2
Connecticut-----	8	66	4,043	+133	61.3	66	6.1
Delaware-----	2	8	498	-17	62.3	15	3.3
Florida-----	5	6	959	-168	159.8	190	.5
Georgia-----	19	25	3,141	+296	125.6	140	2.2
Hawaii-----	--	--	--	--	--	12.8	--
Idaho-----	14	33	1,542	+37	46.7	155	1.0
Illinois-----	46	132	6,124	-166	46.4	322	1.9
Indiana-----	42	164	8,774	+2,300	53.5	241	3.6
Iowa-----	67	194	7,556	-354	38.9	528	1.4
Kansas-----	55	115	5,206	-492	45.3	206	2.5
Kentucky-----	21	46	1,900	-466	41.3	354	.5
Louisiana-----	6	12	1,211	+221	100.9	175	.7
Maine-----	3	55	3,150	-26	57.3	69	4.6
Maryland-----	14	89	7,123	-4	80.0	169	4.2
Massachusetts---	10	84	3,820	-375	45.5	66	5.8
Michigan-----	42	113	7,615	-2,006	67.4	472	1.6
Minnesota-----	57	171	7,037	-203	41.2	1,008	.7
Mississippi-----	12	24	2,019	+201	84.1	201	1.0
Missouri-----	34	73	4,474	-116	61.3	368	1.2
Montana-----	4	11	714	+154	64.9	44	1.6
Nebraska-----	18	45	3,125	-73	69.4	202	1.5
Nevada-----	5	13	680	-55	52.3	13.8	4.9
New Hampshire--	9	45	2,454	-92	54.5	38	6.5
New Jersey-----	10	53	3,675	+202	69.3	75	4.9
New Mexico-----	7	11	2,901	+218	263.7	36	8.1
New York-----	46	305	17,541	-80	57.5	1,024	1.7
North Carolina--	27	53	4,103	-1,049	77.4	190	2.2
North Dakota---	9	14	600	-5	42.9	148	.4
Ohio-----	68	362	17,841	-26	49.3	463	3.9
Oklahoma-----	26	46	2,969	+170	64.5	151	2.0
Oregon-----	16	39	3,105	+155	79.6	110	2.8
Pennsylvania---	49	226	12,845	-697	56.8	718	1.8
Puerto Rico ^{5/} --	--	--	--	--	--	--	--
Rhode Island---	3	17	829	+140	48.8	7.9	10.5
South Carolina--	18	40	5,331	-567	133.3	70	7.6
South Dakota---	16	25	1,074	-45	43.0	192	.6
Tennessee-----	22	44	2,986	-651	67.9	313	1.0
Texas-----	30	63	5,906	-420	93.7	351	1.7
Utah-----	6	24	1,399	-56	58.3	76	1.8
Vermont-----	13	114	6,185	-14	54.3	206	3.0
Virginia-----	37	83	6,357	-368	76.6	225	2.8
Washington-----	17	91	6,480	+70	71.2	183	3.5
West Virginia--	10	18	1,223	-129	67.9	63	1.9
Wisconsin-----	61	482	23,013	+219	47.7	1,846	1.2
Wyoming-----	3	3	142	-78	47.3	18.9	.8
Total, average, or percent---	1,045	3,814	235,829	-9,758	61.8	12,689	1.9

^{1/} Included in count of Official DHI herds and cows in tables 3, 4, and 9.^{2/} For January 1, 1969 data, see table 5 in the March 1969 Dairy-Herd-Improvement Letter, ARS-44-210, covering the DHIA Participation Report.^{3/} Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA).^{4/} Percentage of cows included in the Dairy Herd Improvement Registry recordkeeping plan.^{5/} Based on last report available (1-1-69).

TABLE 6.--Owner-Sampler recordkeeping in the United States (January 1, 1970)

State	Owner-Sampler			Change from 1-1-69	Av. cows per herd	All milk cows <u>1/</u>	0.-S. cows as pct. of all milk cows <u>2/</u>	Change from 1-1-69
	Counties	Herds	Cows					
	Number	Number	Number	Number	Number	Thousands	Percent	Percent
Ala-----	5	7	585	+225	83.6	138	0.4	+0.1
Alaska-----	1	8	321	+34	40.1	1.8	17.8	+1.9
Ariz-----	1	25	8,140	+8,140	325.6	51	16.0	+16.0
Ark-----	22	74	3,136	-986	42.4	99	3.2	-.8
Calif-----	18	96	7,897	+967	82.3	776	1.0	+.1
Colo-----	12	21	928	-101	44.2	101	.9	-.1
Conn-----	8	60	2,507	-222	41.8	66	3.8	-.3
Del-----	2	7	174	-11	24.9	15	1.2	0
Fla-----	11	13	10,434	+4,927	802.6	190	5.5	+2.5
Ga-----	2	3	354	-208	118.0	140	.3	-.1
Hawaii-----	4	5	1,356	+478	271.2	12.8	10.6	+4.1
Idaho-----	14	19	600	+47	31.6	155	.4	0
Ill-----	28	317	10,979	-656	34.6	322	3.4	-.1
Ind-----	40	364	13,808	+1,166	37.9	241	5.7	+.7
Iowa-----	89	1,190	33,939	-1,150	28.5	528	6.4	+.2
Kans-----	30	152	6,009	+776	39.5	206	2.9	+.4
Ky-----	20	31	1,280	-332	41.3	354	.4	0
La-----	2	2	132	+5	66.0	175	.1	0
Maine-----	12	83	3,382	+25	40.7	69	4.9	0
Md-----	9	73	3,335	+43	45.7	169	2.0	+.1
Mass-----	9	57	2,052	+128	36.0	66	3.1	+.3
Mich-----	70	1,295	46,778	-191	36.1	472	9.9	0
Minn-----	82	2,157	64,972	-5,950	30.1	1,008	6.4	-.3
Miss-----	4	5	441	-70	88.2	201	.2	0
Mo-----	43	211	8,543	+827	40.5	368	2.3	+.3
Mont-----	8	26	1,789	-1,521	68.8	44	4.1	-3.1
Nebr-----	22	60	2,300	-510	38.3	202	1.1	-.2
Nev-----	2	9	1,828	+420	203.1	13.8	13.2	+2.9
N. H-----	8	55	2,117	+39	38.5	38	5.6	+.3
N. J-----	9	30	3,163	-2,484	105.4	75	4.2	-2.9
N. Mex-----	1	3	2,269	+255	756.3	36	6.3	+1.0
N. Y-----	48	2,135	87,142	-4,655	40.8	1,024	8.5	-.3
N. C-----	17	36	1,660	-68	46.1	190	.9	0
N. Dak-----	14	25	700	+50	28.0	148	.5	+.1
Ohio-----	71	1,130	35,918	-2,909	31.8	463	7.8	-.4
Okla-----	23	53	2,860	+329	54.0	151	1.9	+.3
Oreg-----	14	60	3,020	-900	50.3	110	2.7	-.8
Pa-----	60	1,262	44,122	+1,082	35.0	718	6.1	+.2
P. R <u>3/</u>	--	--	--	--	--	--	--	--
R. I-----	--	--	--	--	--	7.9	----	----
S. C-----	7	6	463	+311	77.2	70	.7	+.5
S. Dak-----	63	343	11,922	-1,303	34.8	192	6.2	-.3
Tenn-----	6	6	175	-27	29.2	313	.1	0
Tex-----	14	21	1,859	+339	88.5	351	.5	+.1
Utah-----	5	23	821	-210	35.7	76	1.1	-.3
Vt-----	14	569	25,681	-968	45.1	206	12.5	-.3
Va-----	15	54	2,307	+35	42.7	225	1.0	0
Wash-----	14	27	1,183	-348	43.8	183	.6	-.2
W. Va-----	7	22	741	+4	33.7	63	1.2	+.1
Wis-----	70	11,041	372,711	+2,646	33.8	1,846	20.2	+.6
Wyo-----	1	10	510	-505	51.0	18.9	2.7	-2.5
Total, average, or percent--	1,051	23,281	839,343	-2,987	36.1	12,689	6.6	+.1

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA).

2/ Percentage of cows included in the Owner-Sampler recordkeeping plan.

3/ Based on last report available (1-1-69).

TABLE 7.--Weigh-a-Day-a-Month recordkeeping in the United States (January 1, 1970)

State	Weigh-a-Day-a-Month			Change from 1-1-69	Av. cows per herd	All milk cows 1/	WADAM cows as pct. of all milk cows 2/	Change from 1-1-69
	Counties	Herds	Cows					
	Number	Number	Number	Number	Number	Thousands	Percent	Percent
Ala-----	4	6	276	-233	46.0	138	0.2	-0.2
Alaska-----	--	--	--	--	--	1.8	--	--
Ariz-----	--	--	--	--	--	51	--	--
Ark-----	2	4	150	0	37.5	99	.2	.1
Calif-----	--	--	--	--	--	776	--	--
Colo-----	--	--	--	--	--	101	--	--
Conn-----	1	3	234	-115	78.0	66	.4	.1
Del-----	1	3	56	-2	18.7	15	.4	0
Fla-----	8	19	4,585	+327	241.3	190	2.4	.1
Ga-----	28	55	6,699	+1,744	121.8	140	4.8	+1.2
Hawaii-----	1	1	568	+568	568.0	12.8	4.4	+4.4
Idaho-----	--	--	--	--	--	155	--	--
Ill-----	40	183	6,891	+244	37.7	322	2.1	.1
Ind-----	--	--	--	--	--	241	--	--
Iowa-----	2	3	65	+15	21.7	528	--	--
Kans-----	--	--	--	-100	--	206	--	.2
Ky-----	20	24	1,397	+378	58.2	354	.4	.1
La-----	20	164	11,713	+224	71.4	175	6.7	.3
Maine-----	--	--	--	--	--	69	--	--
Md-----	--	--	--	--	--	169	--	--
Mass-----	--	--	--	--	--	66	--	--
Mich-----	--	--	--	--	--	472	--	--
Minn-----	--	--	--	--	--	1,008	--	--
Miss-----	5	19	1,887	+941	99.3	201	.9	.4
Mo-----	--	--	--	--	--	368	--	--
Mont-----	--	--	--	--	--	44	--	--
Nebr-----	17	25	742	-185	29.7	202	.4	0
Nev-----	--	--	--	--	--	13.8	--	--
N. H-----	2	8	449	-121	56.1	38	1.2	.3
N. J-----	--	--	--	--	--	75	--	--
N. Mex-----	--	--	--	--	--	36	--	--
N. Y-----	--	--	--	--	--	1,024	--	--
N. C-----	22	39	1,880	-349	48.2	190	1.0	.2
N. Dak-----	14	20	750	+115	37.5	148	.5	.1
Ohio-----	--	--	--	--	--	463	--	--
Okla-----	--	--	--	-70	--	151	--	--
Oreg-----	--	--	--	--	--	110	--	--
Pa-----	--	--	--	--	--	718	--	--
P. R 3/-----	19	25	5,132	0	205.3	--	--	--
R. I-----	--	--	--	--	--	7.9	--	--
S. C-----	3	8	274	+121	34.3	70	.4	.2
S. Dak-----	--	--	--	--	--	192	--	--
Tenn-----	21	37	1,574	+252	42.5	313	.5	.1
Tex-----	6	11	904	-104	82.2	351	.3	0
Utah-----	--	--	--	--	--	76	--	--
Vt-----	--	--	--	-50	--	206	--	--
Va-----	4	6	232	-42	38.7	225	.1	0
Wash-----	--	--	--	--	--	183	--	--
W. Va-----	16	40	1,035	-196	25.9	63	1.6	.2
Wis-----	--	--	--	--	--	1,846	--	--
Wyo-----	--	--	--	--	--	18.9	--	--
Total, average, or percent--	256	703	47,493	+3,362	67.6	12,689	.4	.1

1/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA).

2/ Percentage of cows included in the Weigh-a-Day-a-Month recordkeeping plan.

3/ Based on last report available (1-1-69).

TABLE 8.--Other unofficial recordkeeping plans^{1/} in the United States (January 1, 1970)

State	Other unofficial plans			Av. cows per herd	All milk cows ^{2/}	Thousands	Cows in unofficial plans as pct. of all milk cows ^{3/}
	Counties	Herds	Cows				
California <u>4/</u> ---	10	204	56,893	278.9	776		7.3
Colorado <u>5/</u> -----	2	2	143	71.5	101		0.1
Michigan <u>6/</u> -----	36	124	5,330	43.0	472		1.1
New York <u>7/</u> -----	21	96	6,641	69.2	1,024		
Oregon <u>8/</u> -----	5	8	450	56.3	110		.4
Pennsylvania <u>9/</u> -	57	882	39,564	44.9	718		5.5
Washington <u>10/</u> --	8	21	2,275	108.3	183		1.2
Total, average, or percent--	139	1,337	111,296	83.2	12,689	.9	

1/ Other unofficial plans operating under the auspices of the National Cooperative Dairy Herd Improvement Program.

2/ Preliminary figures for average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA). The total for U.S. milk cows includes those in States not listed.

3/ Percentage of cows included in other unofficial recordkeeping plans.

4/ Commercial DHIA records.

5/ Commercial records.

6/ Tri-Monthly Test records.

7/ Milk Only Record and Tri-Monthly Fat Test records.

8/ Tester Sampled records.

9/ Supervised Alternate AM-PM records.

10/ Tester-Sampler records.

TABLE 9.--Percent of herds and cows enrolled in State and regional computing centers (January 1, 1970)

State	Official DHI (incl. DHIR)		Owner-Sampler		Weigh-a-Day-a-Month		Other unofficial plans 1/		Machine processing as percent of total recordkeeping	
	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows
Percent										
Ala-----	100.0	100.0	100.0	100.0	50.0	76.8	-----	-----	99.0	99.8
Alaska-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
Ariz-----	100.0	100.0	0	0	-----	-----	-----	-----	71.9	62.9
Ark-----	100.0	100.0	100.0	100.0	0	0	-----	-----	97.7	98.3
Calif-----	34.8	38.5	2.7	1.5	-----	-----	0.5	0.4	29.4	32.3
Colo-----	100.0	100.0	100.0	100.0	-----	-----	100.0	100.0	100.0	100.0
Conn-----	100.0	100.0	100.0	100.0	100.0	100.0	-----	-----	100.0	100.0
Del-----	100.0	100.0	100.0	100.0	0	0	-----	-----	96.7	98.9
Fla-----	100.0	100.0	100.0	100.0	0	0	-----	-----	84.8	87.7
Ga-----	100.0	100.0	100.0	100.0	83.6	86.2	-----	-----	97.8	97.7
Hawaii-----	100.0	100.0	100.0	100.0	100.0	100.0	-----	-----	100.0	100.0
Idaho-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
Ill-----	100.0	100.0	74.1	74.0	69.9	73.2	-----	-----	92.1	93.7
Ind-----	100.0	100.0	21.2	25.2	-----	-----	-----	-----	77.6	83.2
Iowa-----	100.0	100.0	92.7	91.8	0	0	-----	-----	96.8	97.0
Kans-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
Ky-----	100.0	100.0	100.0	100.0	100.0	100.0	-----	-----	100.0	100.0
La-----	100.0	100.0	100.0	100.0	100.0	100.0	-----	-----	100.0	100.0
Maine-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
Md-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
Mass-----	100.0	100.0	96.5	97.1	-----	-----	-----	-----	99.6	99.7
Mich-----	100.0	100.0	88.4	93.8	-----	-----	100.0	100.0	94.8	97.8
Minn-----	100.0	100.0	98.1	97.7	-----	-----	-----	-----	99.2	99.2
Miss-----	100.0	100.0	100.0	100.0	47.4	57.6	-----	-----	96.7	96.8
Mo-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
Mont-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
Nebr-----	100.0	100.0	100.0	100.0	0	0	-----	-----	94.9	96.8
Nev-----	96.3	95.2	11.1	56.2	-----	-----	-----	-----	84.1	82.4
N. H-----	100.0	100.0	70.9	70.7	100.0	100.0	-----	-----	93.9	95.3
N. J-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
N. Mex-----	100.0	100.0	0	0	-----	-----	-----	-----	91.2	83.7
N. Y-----	100.0	100.0	97.7	97.3	-----	-----	100.0	100.0	99.1	99.2
N. C-----	100.0	100.0	100.0	100.0	100.0	100.0	-----	-----	100.0	100.0
N. Dak-----	100.0	100.0	72.0	88.6	70.0	56.0	-----	-----	93.3	94.5
Ohio-----	100.0	100.0	40.8	43.3	-----	-----	-----	-----	78.0	83.6
Okla-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
Oreg-----	100.0	100.0	100.0	100.0	-----	-----	100.0	100.0	100.0	100.0
Pa-----	100.0	100.0	100.0	100.0	-----	-----	100.0	100.0	100.0	100.0
P. R 2/-----	100.0	100.0	-----	-----	100.0	100.0	-----	-----	100.0	100.0
R. I-----	100.0	100.0	-----	-----	-----	-----	-----	-----	100.0	100.0
S. C-----	100.0	100.0	100.0	100.0	37.5	8.4	-----	-----	98.2	99.2
S. Dak-----	100.0	100.0	95.3	97.0	-----	-----	-----	-----	96.7	97.9
Tenn-----	100.0	100.0	100.0	100.0	21.6	28.7	-----	-----	94.5	96.6
Tex-----	100.0	100.0	100.0	100.0	36.4	44.4	-----	-----	98.0	98.5
Utah-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
Vt-----	100.0	100.0	39.5	37.5	-----	-----	-----	-----	72.8	74.8
Va-----	100.0	100.0	100.0	100.0	100.0	100.0	-----	-----	100.0	100.0
Wash-----	100.0	100.0	100.0	100.0	-----	-----	100.0	100.0	100.0	100.0
W. Va-----	100.0	100.0	100.0	100.0	0	0	-----	-----	83.9	91.4
Wis-----	100.0	100.0	88.9	88.5	-----	-----	-----	-----	91.3	91.6
Wyo-----	100.0	100.0	100.0	100.0	-----	-----	-----	-----	100.0	100.0
U.S. percent-	97.2	90.6	85.9	80.1	69.0	73.7	84.8	49.1	92.4	87.5

1/ Other unofficial plans operating under the auspices of the National Cooperative Dairy Herd Improvement Program. See table 8 for names of plans by State.

2/ Based on last report available (1-1-69).

TABLE 10.--Status of Dairy Herd Improvement Association work in the United States (1906-1970, inclusive)

Year	Associa- tions 1/	Super- visors 1/	Official DHI Plan							
			Herds	Cows	Cows per herd	Average production				
						Herds reported	Cows reported	Milk	Milk fat	
Number	Number	Number	Number	Number	Number	Number	Number	Pounds	Percent	Pounds
1906---	1	---	31	239	7.7	---	---	5,300	4.06	215
1907---	4	---	---	1,606	---	---	---	5,366	4.10	220
1908---	6	---	---	3,921	---	---	---	---	---	---
1909---	25	---	---	11,921	---	---	---	---	---	---
1910---	40	---	---	2/25,000	---	---	---	2/5,730	3.96	2/227
1911---	64	---	---	2/40,000	---	---	---	---	---	---
1912---	82	---	---	2/43,000	---	---	---	---	---	---
1913---	100	---	---	47,150	---	---	---	---	---	---
1914---	163	---	---	73,280	---	---	---	---	---	---
1915---	211	---	---	105,526	---	---	---	---	---	---
1916---	346	---	---	150,677	---	---	---	---	---	---
1917---	459	---	11,720	216,831	18.5	---	---	---	---	---
1918---	353	---	9,778	172,518	17.6	---	---	---	---	---
1919---	385	---	10,000	167,313	16.7	---	---	---	---	---
1920---	468	---	11,948	203,472	17.0	---	---	6,175	4.00	247
1921---	452	---	11,209	193,928	17.3	---	---	---	---	---
1922---	513	---	12,508	215,321	17.2	---	---	---	---	---
1923---	627	---	16,357	277,010	16.9	---	---	---	---	---
1924 3/	---	---	---	---	---	---	---	---	---	---
1925---	732	---	18,677	307,073	16.4	---	42,302	7,189	3.95	284
1926---	777	---	19,540	327,653	16.8	---	103,443	7,331	3.96	290
1927---	837	---	21,128	362,014	17.1	---	116,509	7,411	3.95	293
1928---	947	---	23,327	414,891	17.8	---	152,412	7,476	3.96	296
1929---	1,090	---	26,182	465,804	17.8	---	194,859	7,498	3.97	298
1930---	1,143	---	27,888	507,549	18.2	---	235,624	7,642	3.96	303
1931---	1,112	---	26,308	510,714	19.4	---	219,924	7,812	3.92	306
1932---	1,005	---	20,351	427,044	21.0	---	186,683	7,858	3.95	310
1933---	881	---	15,447	358,501	23.2	---	163,014	7,849	3.99	313
1934---	793	---	13,694	325,837	23.8	---	203,930	8,015	4.02	322
1935---	809	---	15,573	364,218	23.4	---	200,367	7,977	4.04	322
1936---	876	---	17,344	404,412	23.3	---	257,248	7,912	4.03	319
1937---	992	---	20,772	496,562	23.9	---	354,568	7,923	4.04	320
1938---	1,106	---	23,701	558,993	23.6	---	448,025	7,831	4.05	317
1939---	1,228	---	25,949	625,284	24.1	---	507,563	7,977	4.05	323
1940---	1,300	---	27,948	676,141	24.2	---	545,382	8,133	4.07	331
1941---	1,383	---	31,381	763,502	24.3	---	591,103	8,225	4.07	335
1942---	1,421	---	32,957	816,117	24.8	---	514,758	8,323	4.07	339
1943---	1,057	---	24,155	616,972	25.5	---	375,914	8,325	4.06	338
1944---	954	---	20,825	561,587	27.0	---	383,337	8,296	4.05	336
1945---	949	---	21,254	577,200	27.2	---	384,360	8,592	4.03	346
1946---	1,124	---	23,331	627,878	27.0	---	413,554	8,635	4.04	349
1947---	1,426	---	28,812	775,546	26.9	---	533,061	8,638	4.03	348
1948---	1,668	---	33,274	886,129	26.6	---	620,385	8,675	4.03	350
1949---	1,787	---	35,851	943,939	26.3	---	729,150	8,907	4.03	359
1950---	1,973	---	40,100	1,088,872	27.2	---	836,922	9,172	4.03	370
1951---	2,143	---	42,949	1,186,615	27.6	---	885,859	9,195	4.02	370
1952---	2,109	---	40,105	1,166,297	29.1	---	928,376	9,192	3.98	366
1953---	2,151	---	40,983	1,226,588	29.9	---	1,020,326	9,253	3.98	368
1954---	2,175	---	41,254	1,311,698	31.8	---	1,079,557	9,363	3.97	372
1955---	2,288	---	41,240	1,333,866	32.3	---	1,175,378	9,502	3.95	375
1956---	2,266	---	40,984	1,406,306	34.4	---	1,229,971	9,713	3.94	383
1957 4/	1,700	2,310	41,638	1,479,799	35.5	---	1,256,129	9,894	3.93	389
1958---	1,544	2,293	39,985	1,548,884	38.7	---	1,345,750	10,068	3.91	394
1959---	1,500	2,337	40,284	1,607,538	39.9	---	1,406,665	10,327	3.88	401
1960---	1,509	2,397	41,293	1,746,752	42.3	---	5/1,343,725	5/10,561	3.87	5/409
1961---	1,395	2,448	42,558	1,867,469	43.9	28,649	1,280,785	10,796	3.87	418
1962---	1,436	2,472	42,034	1,958,355	46.6	32,794	1,531,826	11,032	3.86	426
1963---	1,441	2,516	41,937	2,006,534	47.8	35,378	1,674,803	11,286	3.85	434
1964---	1,420	2,474	40,670	2,010,144	49.4	35,689	1,746,475	11,685	3.83	447
1965---	1,424	2,439	40,075	2,087,581	52.1	35,604	1,821,252	11,976	3.82	457
1966---	1,418	2,378	38,879	2,058,592	52.9	34,886	1,852,533	12,127	3.81	462
1967---	1,344	2,319	37,683	2,098,919	55.7	34,515	1,890,024	12,307	3.80	468
1968---	1,318	2,304	36,869	2,131,929	57.8	(6/).	(6/).	(6/).	(6/).	(6/).
1969---	1,289	2,250	35,617	2,138,953	60.1	(6/).	(6/).	(6/).	(6/).	(6/).
1970---	1,267	2,225	34,308	2,122,011	61.9	---	---	---	---	---

1/ Number of associations and supervisors include all plans.

2/ Estimated.

3/ Date for collecting data changed in 1924 from July 1 to January 1.

4/ Prior to 1957 associations were counted on the basis of supervisor circuits.

5/ National testing year changed in 1960 to begin May 1. These values are averages of 1959 and 1961.

6/ Average production data were not available when this report was compiled.

TABLE 11--Fourteen-year production summary: U.S. cows and Official DHI cows (1956-1969)

Year 1/	U.S. report for all milk cows					Official DHI Plan			
	Milk cows	Milk produced	Production/cow			Cows	Production/cow		
			Milk	Milk fat	Milk fat		Milk	Milk fat	Milk fat
	Thousands	Mil. lb.	Pounds	Percent	Pounds	Number	Pounds	Percent	Pounds
1956-----	20,501	124,860	6,090	3.83	233	1,479,799	9,713	3.94	383
1957-----	19,774	124,628	6,303	3.81	240	1,548,884	9,894	3.93	389
1958-----	18,711	123,220	6,585	3.78	249	1,607,538	10,068	3.91	394
1959-----	17,901	121,989	6,815	3.76	256	1,746,752	10,327	3.88	401
1960-----	17,515	123,109	7,029	3.76	264	1,867,469	2/10,561	3.87	2/409
1961-----	17,243	125,707	7,290	3.74	273	1,958,355	10,796	3.87	418
1962-----	16,842	126,251	7,496	3.74	280	2,006,534	11,032	3.86	426
1963-----	16,260	125,202	7,700	3.71	286	2,010,144	11,286	3.85	434
1964-----	15,677	126,967	8,099	3.70	300	2,087,581	11,685	3.83	447
1965-----	14,954	124,173	8,304	3.70	307	2,058,592	11,976	3.82	457
1966-----	14,093	119,892	8,507	3.69	314	2,098,919	12,127	3.81	462
1967-----	13,501	118,769	8,797	3.69	325	2,131,929	12,307	3.80	468
1968-----	13,038	117,234	8,992	3.67	330	2,138,953	(3/).	----	(3/).
1969-----	4/12,689	4/116,200	4/9,158	3.67	4/336	2,122,011	(3/).	----	(3/).

1/ Based on succeeding January 1 reports of cows on test in the National Cooperative Dairy Herd Improvement Program.

2/ National testing year changed in 1960 to begin May 1. These values are averages of 1959 and 1961.

3/ Average production data were not available when this report was compiled.

4/ Statistical Reporting Service (USDA), "Milk Production", January 1970. Data are preliminary.

TABLE 12.--Fourteen-year summary of the National Cooperative Dairy Herd Improvement Program: U.S. cows and DHIA cows (1956-1969)

Year 1/	Official DHI plan		Owner-Sampler plan		Weigh-a-Day-a-Month plan		Milk cows in U.S.	
	Cows on test	Proportion of U.S. cows	Cows on test	Proportion of U.S. cows	Cows on test	Proportion of U.S. cows	Cows 2/	Proportion of U.S. cows
	Number	Percent	Number	Percent	Number	Percent	Thousands	Percent
1956-----	1,479,799	7.22	405,090	1.98	21,297	0.10	20,501	9.3
1957-----	1,548,884	7.83	490,001	2.48	79,489	.40	19,774	10.7
1958-----	1,607,538	8.59	549,916	2.94	74,814	.40	18,711	11.9
1959-----	1,746,752	9.76	615,899	3.44	76,392	.43	17,901	13.6
1960-----	1,867,469	10.66	655,885	3.74	70,847	.40	17,515	14.8
1961-----	1,958,355	11.36	698,302	4.05	70,617	.41	17,243	15.8
1962-----	2,006,534	11.91	726,478	4.31	50,492	.30	16,842	16.5
1963-----	2,010,144	12.36	752,229	4.63	60,149	.37	16,260	17.4
1964-----	2,087,581	13.32	818,406	5.22	56,570	.36	15,677	18.9
1965-----	2,058,592	13.77	839,838	5.62	56,957	.38	14,954	19.8
1966-----	2,098,919	14.89	825,127	5.85	53,429	.38	14,093	21.1
1967-----	2,131,929	15.79	847,485	6.28	48,853	.36	13,501	22.4
1968-----	2,138,953	16.41	842,330	6.46	44,131	.34	13,038	23.2
1969 3/-----	2,122,011	16.72	839,343	6.61	47,493	.37	12,689	23.7

1/ Based on succeeding January 1 reports of cows on test in the National Cooperative Dairy Herd Improvement Program.

2/ Average number of milk cows on farms during year, excluding heifers not yet fresh; estimated by the Statistical Reporting Service (USDA).

3/ Also included in the national program for this year are 111,296 cows on other unofficial plans, accounting for an additional 0.9 percentage, which raises the proportion of U.S. cows to 24.6 percent.

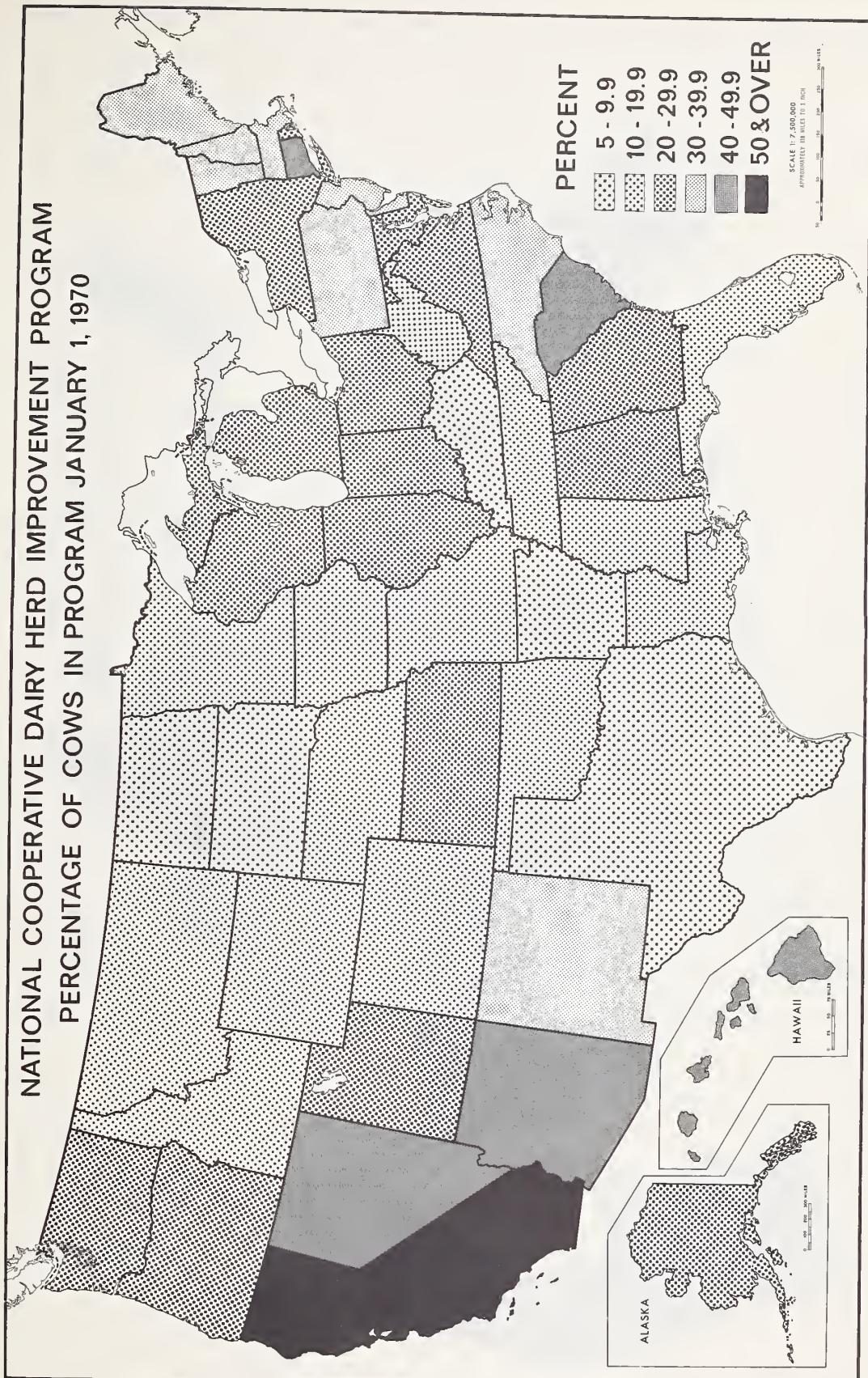
TABLE 13.--Counties, by State, with 40 percent or more cows included in the National Cooperative Dairy Herd Improvement Program--January 1, 1970
 (Numerals in parentheses at the end of county listing show the percentage of the States' counties that have 25 percent or more of their cows on test.)

State and county	Cows enrolled in DHIA plans	State and county	Cows enrolled in DHIA plans	State and county	Cows enrolled in DHIA plans
	Percent		Percent		Percent
ALABAMA		FLORIDA		KANSAS	
Russell-----	68	St. Johns-----	80	Pawnee-----	77
Etowah-----	58	Seminole-----	80	Harper-----	56
Talladega-----	58	Leon-----	77	Wallace-----	51
Elmore-----	49	Citrus-----	73	Comanche-----	47
Montgomery-----	48	Indian River-----	65	Harvey-----	47
Cherokee-----	44	Pinellas-----	62	Saline-----	46
St. Clair-----	41	Gilchrist-----	61	Logan-----	45
(18%)		Jefferson-----	60	Meade-----	42
(25%)		Union-----	60	(25%)	
ARIZONA		Sumter-----	58	LOUISIANA	
Pima-----	139	Washington-----	56	Richland-----	64
Pinal-----	59	Orange-----	53	West Feliciana-----	55
Graham-----	49	Jackson-----	46	Morehouse-----	54
Maricopa-----	48	Manatee-----	45	West Carroll-----	45
Cochise-----	46	(39%)		(19%)	
(36%)		GEORGIA		MAINE	
ARKANSAS		Dooly-----	95	Oxford-----	52
Miller-----	47	Lee-----	92	Androscoggin-----	44
(1%)		Peach-----	90	Cumberland-----	44
CALIFORNIA		Houston-----	88	(44%)	
Alameda-----	100	Macon-----	88	MARYLAND	
Contra Costa-----	84	Lamar-----	85	Dorchester-----	45
Monterey-----	78	McDuffie-----	84	(38%)	
Yolo-----	77	Mitchell-----	79	MASSACHUSETTS	
Madera-----	75	Newton-----	79	Barnstable-----	74
Marin-----	75	Jeff Davis-----	75	Berkshire-----	42
Tehama-----	73	Jefferson-----	72	Hampshire-----	41
Placer-----	71	Jones-----	71	(50%)	
Kern-----	66	Worth-----	69	MICHIGAN	
Ventura-----	66	Clarke-----	67	Kalamazoo-----	55
Santa Barbara-----	63	Burke-----	66	Barry-----	55
Fresno-----	60	Spalding-----	65	Calhoun-----	48
San Joaquin-----	59	Thomas-----	62	Hillsdale-----	44
San Diego-----	57	Clayton-----	60	Shiawassee-----	44
Santa Clara-----	57	Carroll-----	57	Ingham-----	43
Sonoma-----	56	Tift-----	57	Missaukee-----	43
Sutter-----	54	Schley-----	54	Lenawee-----	42
Merced-----	53	Walton-----	54	Clinton-----	41
Stanislaus-----	52	Douglas-----	50	(36%)	
Napa-----	51	Stewart-----	50	MINNESOTA	
Tulare-----	51	Brooks-----	48	Ramsey-----	75
Sacramento-----	50	Fayette-----	48	(14%)	
Shasta-----	50	Butts-----	46	MISSISSIPPI	
Riverside-----	49	Tattnall-----	46	Washington-----	70
San Bernardino-----	49	Dougherty-----	45	Coahoma-----	69
Yuba-----	48	Henry-----	45	Sunflower-----	42
Kings-----	45	Jasper-----	45	(13%)	
San Luis Obispo-----	44	Richmond-----	42	MISSOURI	
Nevada-----	40	(28%)		Callaway-----	50
San Mateo-----	40	HAWAII		Jackson-----	44
(64%)		Maui-----	73	(9%)	
COLORADO		Kauai-----	52	MONTANA	
Chaffee-----	64	Oahu-----	46	Lewis and Clark-----	52
Pueblo-----	63	(80%)		(9%)	
(8%)		ILLINOIS		NEBRASKA	
CONNECTICUT		Monroe-----	59	(9%)	
Tolland-----	57	Lawrence-----	53	NEVADA	
Litchfield-----	52	Piatt-----	49	Clark-----	92
Hartford-----	45	Champaign-----	44	Douglas-----	50
New Haven-----	43	(22%)		(29%)	
(88%)		INDIANA			
DELAWARE		(7%)			
Sussex-----	45	IOWA			
(67%)		Dallas-----	70		
		Webster-----	56		
		Story-----	44		
		Lee-----	41		
		(29%)			

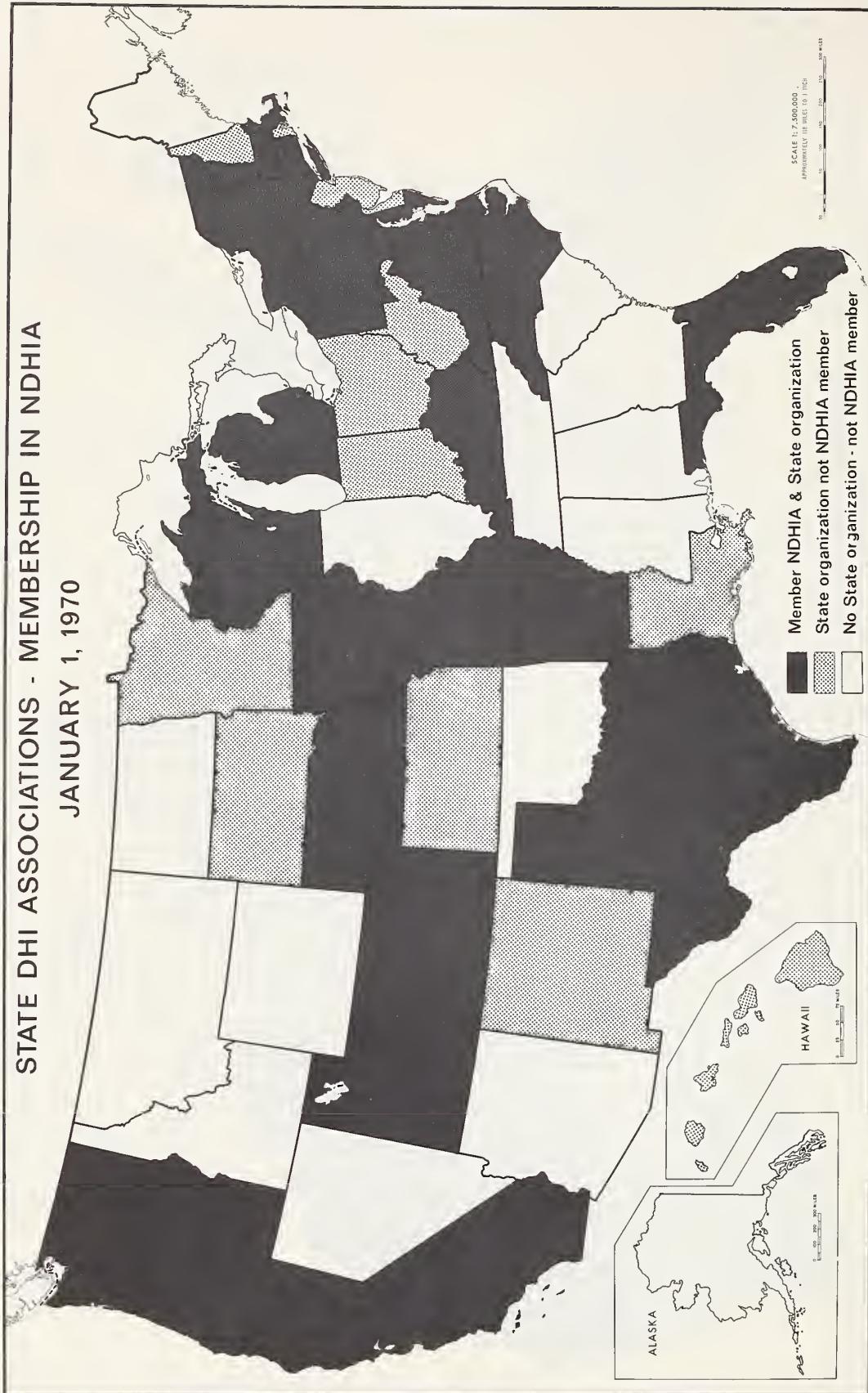
TABLE 13.--Counties, by State, with 40 percent or more cows included in the National Cooperative Dairy Herd Improvement Program--January 1, 1970--Continued

State and county	Cows enrolled in DHIA plans	State and county	Cows enrolled in DHIA plans	State and county	Cows enrolled in DHIA plans
	Percent		Percent		Percent
NEW HAMPSHIRE		OHIO (contd.)		TEXAS (contd.)	
Sullivan-----	54	Wayne-----	44	San Patricio-----	55
Hillsborough-----	41	Allen-----	42	Bell-----	42
(80%)		Clark-----	42	Milam-----	40
NEW JERSEY		Erie-----	42	(7%)	
Middlesex-----	59	Madison-----	41	UTAH	
Burlington-----	46	Ashland-----	40	Salt Lake-----	55
(33%)		Logan-----	40	Wasatch-----	48
NEW MEXICO		(52%)		Davis-----	43
Dona Ana-----	79	OKLAHOMA		Summit-----	43
Otero-----	45	Atoka-----	100	(38%)	
(13%)		Pittsburg-----	100	VERMONT	
NEW YORK		Grant-----	80	Windsor-----	59
Tompkins-----	54	Texas-----	78	Bennington-----	54
Columbia-----	51	Kay-----	63	Washington-----	49
Long Island-----	50	Woodward-----	58	Addison-----	41
Dutchess-----	48	Garfield-----	53	(71%)	
Livingston-----	41	Noble-----	47	VIRGINIA	
Schuylerville-----	40	Osage-----	44	City of Newport News-----	100
(42%)		(29%)		James City-----	90
NORTH CAROLINA		OREGON		City of Va. Beach-----	58
New Hanover-----	100	Josephine-----	52	Hanover-----	53
Richmond-----	100	Benton-----	45	Madison-----	53
Swain-----	100	Klamath-----	42	Culpeper-----	50
Hyde-----	89	(33%)		Henrico-----	50
Columbus-----	73	PENNSYLVANIA		City of Chesapeake-----	48
Robeson-----	73	Clinton-----	58	Gloucester-----	47
Jones-----	71	Blair-----	47	Nansesmond-----	46
Lenoir-----	71	Lancaster-----	47	Powhatan-----	46
Wake-----	69	Montgomery-----	45	Prince George-----	45
Beaufort-----	63	Huntingdon-----	44	Pulaski-----	45
Franklin-----	63	Sullivan-----	43	Rockingham-----	45
Johnston-----	63	Mifflin-----	40	Spotsylvania-----	45
Pitt-----	62	(64%)		Brunswick-----	44
Bladen-----	61	RHODE ISLAND		Nottoway-----	43
Warren-----	61	(40%)		Amelia-----	42
Brunswick-----	58	SOUTH CAROLINA		Augusta-----	42
Bertie-----	57	Colleton-----	100	Orange-----	42
Caswell-----	57	Jasper-----	94	Southampton-----	42
Halifax-----	57	Lee-----	94	Charlotte-----	41
Macon-----	57	Sumter-----	78	Chas. City & New Kent-----	40
Nash-----	57	Kershaw-----	76	Fauquier-----	40
Guilford-----	55	Bamberg-----	75	Middlesex-----	40
Chatham-----	54	Calhoun-----	71	Northumberland-----	40
Gaston-----	53	Barnwell-----	68	(44%)	
Onslow-----	51	Saluda-----	64	WASHINGTON	
Hoke-----	49	Marlboro-----	60	Walla Walla-----	54
Orange-----	49	Newberry-----	59	Wahkiakum-----	47
Randolph-----	49	Darlington-----	58	Pierce-----	45
Washington-----	49	Orangeburg-----	57	Kittitas-----	40
Buncombe-----	47	Hampton-----	53	(49%)	
Granville-----	47	Greenville-----	44	WEST VIRGINIA	
Montgomery-----	47	Dorchester-----	41	Mason-----	40
Pender-----	46	Laurens-----	40	(4%)	
Craven-----	45	(50%)		WISCONSIN	
Durham-----	44	SOUTH DAKOTA		Kenosha-----	49
Person-----	44	(4%)		Winnebago-----	45
Cherokee-----	42	TENNESSEE		Kewaunee-----	41
Alamance-----	41	Dyer-----	41	Manitowoc-----	41
Clay-----	41	(4%)		Walworth-----	41
Cumberland-----	41	TEXAS		(51%)	
Mecklenburg-----	41	Deaf Smith-----	75	WYOMING	
Cleveland-----	40	Starr-----	65	Albany-----	82
(57%)		Willacy-----	65	(4%)	
OHIO		Burleson-----	60		
Marion-----	55				
Hamilton-----	48				
Lorain-----	45				

NATIONAL COOPERATIVE DAIRY HERD IMPROVEMENT PROGRAM
PERCENTAGE OF COWS IN PROGRAM JANUARY 1, 1970



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JANUARY 1, 1970



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